Innokenty Kantor

List of Publications by Citations

97 papers	2,479 citations	26 h-index	46 g-index
108 ext. papers	2,769 ext. citations	4.5 avg, IF	4.48 L-index

#	Paper	IF	Citations
97	Body-centered cubic iron-nickel alloy in Earth's core. *Science*, **2007**, 316, 1880-3	33.3	171
96	BX90: a new diamond anvil cell design for X-ray diffraction and optical measurements. *Review of Scientific Instruments*, **2012**, 83, 125102	1.7	169
95	Stable intermediate-spin ferrous iron in lower-mantle perovskite. *Nature Geoscience*, **2008**, 1, 684-687	18.3	141
94	Superhard semiconducting optically transparent high pressure phase of boron. *Physical Review Letters*, **2009**, 102, 185501	7.4	123
93	The time-resolved and extreme conditions XAS (TEXAS) facility at the European Synchrotron Radiation Facility: the general-purpose EXAFS bending-magnet beamline BM23. *Journal of Synchrotron Radiation*, **2015**, 22, 1548-54	2.4	106
92	Optical absorption and radiative thermal conductivity of silicate perovskite to 125 gigapascals. *Science*, **2008**, 322, 1529-32	33.3	91
91	A novel gas-loading system for mechanically closing of various types of diamond anvil cells. *Review of Scientific Instruments*, **2008**, 79, 045110	1.7	76
90	The Time-resolved and Extreme-conditions XAS (TEXAS) facility at the European Synchrotron Radiation Facility: the energy-dispersive X-ray absorption spectroscopy beamline ID24. *Journal of Synchrotron Radiation*, **2016**, 23, 353-68	2.4	74
89	Stability of iron-bearing carbonates in the deep Earth's interior. *Nature Communications*, **2017**, 8, 15960	17.4	59
88	X-ray diffraction and Mössbauer spectroscopy study of fcc iron hydride FeH at high pressures and implications for the composition of the Earth's core. *Earth and Planetary Science Letters*, **2011**, 307, 409-414	5.3	57
87	Letter. Optical absorption spectra of ferropericlase to 84 GPa. *American Mineralogist*, **2007**, 92, 433-436	2.9	56
86	Spin crossover in (Mg,Fe)O: A Mössbauer effect study with an alternative interpretation of x-ray emission spectroscopy data. *Physical Review B*, **2006**, 73,	3.3	52
85	Beating the miscibility barrier between iron group elements and magnesium by high-pressure alloying. *Physical Review Letters*, **2005**, 95, 245502	7.4	52
84	Pressure-induced magnetization in FeO: evidence from elasticity and Mössbauer spectroscopy. *Physical Review Letters*, **2004**, 93, 215502	7.4	51
83	Melting of iron determined by X-ray absorption spectroscopy to 100 GPa. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 12042-5	11.5	49
82	Sound wave velocities of fcc Fe–Ni alloy at high pressure and temperature by mean of inelastic X-ray scattering. *Physics of the Earth and Planetary Interiors*, **2007**, 164, 83-89	2.3	48
81	X-ray diffraction in the pulsed laser heated diamond anvil cell. *Review of Scientific Instruments*, **2010**, 81, 113902	1.7	40

80	Low-spin Fe2+ in silicate perovskite and a possible layer at the base of the lower mantle. *Physics of the Earth and Planetary Interiors*, **2010**, 180, 215-221	2.3	40
79	Effect of non-hydrostatic conditions on the elastic behaviour of magnetite: an in situ single-crystal X-ray diffraction study. *Physics and Chemistry of Minerals*, **2007**, 34, 627-635	1.6	39
78	Solving Controversies on the Iron Phase Diagram Under High Pressure. *Geophysical Research Letters* , **2018**, 45, 11,074	4.9	39
77	High-pressure spectroscopic study of siderite (FeCO3) with a focus on spin crossover. *American Mineralogist*, **2015**, 100, 2670-2681	2.9	38
76	Short-range order and Fe clustering in Mg1−xFexO under high pressure. *Physical Review B*, **2009**, 80,	3.3	35
75	Mössbauer spectroscopic study of pressure-induced magnetisation in wüstite (FeO). *Journal of Alloys and Compounds*, **2004**, 376, 5-8	5.7	34
74	Iron-carbon interactions at high temperatures and pressures. *Applied Physics Letters*, **2008**, 92, 121912	3.4	30
73	Large oxygen excess in the primitive mantle could be the source of the Great Oxygenation Event. *Geochemical Perspectives Letters*,5-10	3	29
72	Phase relations of Fe-Si alloy in Earth's core. *Geophysical Research Letters*, **2009**, 36,	4.9	27
71	Methodology for in situ synchrotron X-ray studies in the laser-heated diamond anvil cell. *High Pressure Research*, **2017**, 37, 170-180	1.6	26
70	Iron oxidation state of FeTiO3 under high pressure. *Physical Review B*, **2009**, 79,	3.3	26
69	SiO_{2} Glass Density to Lower-Mantle Pressures. *Physical Review Letters*, **2017**, 119, 215701	7.4	25
68	Local structure and spin transition in Fe2O3 hematite at high pressure. *Physical Review B*, **2016**, 94,	3.3	24
67	Iron spin state in silicate perovskite at conditions of the Earth's deep interior. *High Pressure Research*, **2013**, 33, 663-672	1.6	22
66	The Melting Curve of Nickel Up to 100 GPa Explored by XAS. *Journal of Geophysical Research: Solid Earth*, **2017**, 122, 9921-9930	3.6	21
65	Hyperfine splitting and room-temperature ferromagnetism of Ni at multimegabar pressure. *Physical Review Letters*, **2013**, 111, 157601	7.4	21
64	High-pressure studies of (Mg0.9Fe0.1)2SiO4 olivine using raman spectroscopy, X-ray diffraction, and mössbauer spectroscopy. *Inorganic Chemistry*, **2008**, 47, 2668-73	5.1	21
63	Phase transitions in MnO and FeO at low temperatures: A neutron powder diffraction study. *Journal of Alloys and Compounds*, **2005**, 402, 42-45	5.7	21

62	A laser heating facility for energy-dispersive X-ray absorption spectroscopy. *Review of Scientific Instruments*, **2018**, 89, 013111	1.7	20
61	Measurement of temperature in the laser heated diamond anvil cell: comparison between reflective and refractive optics. *High Pressure Research*, **2018**, 38, 250-269	1.6	19
60	A new detector for sub-millisecond EXAFS spectroscopy at the European Synchrotron Radiation Facility. *Journal of Synchrotron Radiation*, **2014**, 21, 1240-6	2.4	19
59	High-pressure behavior of perovskite: FeTiO_{3} dissociation into (Fe_{1-delta},Ti_{delta})O and Fe_{1+delta}Ti_{2-delta}O_{5}. *Physical Review Letters*, **2009**, 103, 065503	7.4	19
58	Pressure-induced phase transition in Mg0.8Fe0.2O ferropericlase. *Physics and Chemistry of Minerals*, **2006**, 33, 35-44	1.6	19
57	Bromine speciation in hydrous silicate melts at high pressure. *Chemical Geology*, **2015**, 404, 18-26	4.2	18
56	High-pressure structural studies of eskolaite by means of single-crystal X-ray diffraction. *American Mineralogist*, **2012**, 97, 1764-1770	2.9	17
55	Electronic state of Fe2+ in (Mg,Fe)(Si,Al)O3 perovskite and (Mg,Fe)SiO3 majorite at pressures up to 81 GPa and temperatures up to 800 K. *Physics and Chemistry of Minerals*, **2010**, 37, 407-415	1.6	17
54	High-pressure synthesis and physical properties of an orthorhombic phase of chromium dioxide. *Journal of Applied Physics*, **2006**, 99, 053909	2.5	17
53	Brillouin scattering and x-ray diffraction of solid argon to 65 GPa and 700 K: Shear strength of argon at HP/HT. *Journal of Applied Physics*, **2013**, 114, 093517	2.5	16
52	High-pressure experimental and computational XANES studies of (Mg,Fe)(Si,Al)O3 perovskite and (Mg,Fe)O ferropericlase as in the Earth□ lower mantle. *Physical Review B*, **2009**, 79,	3.3	16
51	FeO and MnO high-pressure phase diagrams: relations between structural and magnetic properties. *Phase Transitions*, **2007**, 80, 1151-1163	1.3	15
50	Structure and magnetism of cobalt at high pressure and low temperature. *Physical Review B*, **2016**, 94,	3.3	14
49	Pressure tuning of charge ordering in iron oxide. *Nature Communications*, **2018**, 9, 4142	17.4	14
48	Melting Curve and Phase Relations of Fe-Ni Alloys: Implications for the Earth's Core Composition. *Geophysical Research Letters*, **2020**, 47, e2020GL088169	4.9	13
47	Probing the electronic and local structural changes across the pressure-induced insulator-to-metal transition in VO 2. *Europhysics Letters*, **2014**, 108, 36003	1.6	13
46	Chemically homogeneous spin transition zone in Earth's lower mantle. *Physics of the Earth and Planetary Interiors*, **2011**, 185, 107-111	2.3	13
45	Comparative study of the influence of pulsed and continuous wave laser heating on the mobilization of carbon and its chemical reaction with iron in a diamond anvil cell. *Journal of Applied Physics*, **2019**, 125, 095901	2.5	12

44	Quenching rattling modes in skutterudites with pressure. *Physical Review B*, **2015**, 91,	3.3	12
43	Magnetism in cold subducting slabs at mantle transition zone depths. *Nature*, **2019**, 570, 102-106	50.4	11
42	Phase relations in Fe□NiC system at high pressures and temperatures. *Physics and Chemistry of Minerals*, **2011**, 38, 203-214	1.6	11
41	High-brilliance X-ray system for high-pressure in-house research: applications for studies of superhard materials. *High Pressure Research*, **2006**, 26, 137-143	1.6	11
40	High pressure XANES and XMCD in the tender X-ray energy range. *High Pressure Research*, **2016**, 36, 445-457	1.6	11
39	Local structure investigation of □Ni(OH)2 under pressure using combined Raman and Ni K-edge extended x-ray absorption fine structure studies. *High Pressure Research*, **2017**, 37, 1-10	1.6	10
38	Atomic-level mechanism of elastic deformation in the Zr-Cu metallic glass. *Physical Review B*, **2016**, 93,	3.3	10
37	Decomposition of ferropericlase (Mg0.80Fe0.20)O at high pressures and temperatures. *Journal of Alloys and Compounds*, **2005**, 390, 41-45	5.7	10
36	Local structure of solid Rb at megabar pressures. *Journal of Chemical Physics*, **2015**, 142, 214503	3.9	9
35	Magnetic interactions in NiO at ultrahigh pressure. *Physical Review B*, **2016**, 93,	3.3	9
34	Synchrotron radiation M□sbauer spectra of a rotating absorber with implications for testing velocity and acceleration time dilation. *Journal of Synchrotron Radiation*, **2015**, 22, 723-8	2.4	9
33	Probing the local, electronic and magnetic structure of matter under extreme conditions of temperature and pressure. *High Pressure Research*, **2016**, 36, 293-302	1.6	8
32	Thermal decomposition of ammonium hexachloroosmate. *Physical Chemistry Chemical Physics*, **2016** , 18, 33134-33141	3.6	8
31	Pressure-induced structural phase transition of the iron end-member of ringwoodite (g-Fe2SiO4) investigated by X-ray diffraction and M□sbauer spectroscopy. *American Mineralogist*, **2011**, 96, 833-840	2.9	8
30	Universal amorphous-amorphous transition in GexSe100-x glasses under pressure. *Scientific Reports* , **2016**, 6, 27317	4.9	7
29	Experimental investigation of FeCO3 (siderite) stability in Earth□ lower mantle using XANES spectroscopy. *American Mineralogist*, **2019**, 104, 1083-1091	2.9	7
28	Effect of pressure-driven local structural rearrangement on the superconducting properties of FeSe0.5Te0.5. *Physical Review B*, **2014**, 90,	3.3	7
27	On-line laser heating setup for ED-XAS at ID24: preliminary optical design and test results. *High Pressure Research*, **2013**, 33, 108-113	1.6	7

26	Monoclinic FeO at high pressures. *Zeitschrift Fur Kristallographie - Crystalline Materials*, **2008**, 223, 461-464		7
25	Melting properties by X-ray absorption spectroscopy: common signatures in binary Fe-C, Fe-O, Fe-S and Fe-Si systems. *Scientific Reports*, **2020**, 10, 11663	4.9	7
24	Compression of liquid Ni and Co under extreme conditions explored by x-ray absorption spectroscopy. *Physical Review B*, **2019**, 100,	3.3	6
23	Anelasticity of FexO at high pressure. *Applied Physics Letters*, **2008**, 93, 034106	3.4	6
22	High pressure dynamic XAS studies using an energy-dispersive spectrometer. *High Pressure Research*, **2016**, 36, 404-418	1.6	5
21	Pressure-mediated structural transitions in bulk EuTiO3. *Physical Review B*, **2018**, 98,	3.3	5
20	Resonant inelastic X-ray scattering of magnetic excitations under pressure. *Journal of Synchrotron Radiation*, **2019**, 26, 1725-1732	2.4	5
19	121Sb and125Te nuclear inelastic scattering in Sb2Te3under high pressure. *Semiconductor Science and Technology*, **2014**, 29, 124001	1.8	5
18	Thermal and magnetic anomalies of □ron: an exploration by extended x-ray absorption fine structure spectroscopy and synchrotron x-ray diffraction. *Journal of Physics Condensed Matter*, **2016**, 28, 355401	1.8	5
17	Time-Resolved XAS Using an Energy Dispersive Spectrometer: Techniques and Applications **2016**, 185-212		5
16	High-pressure synthesis of skiagite-majorite garnet and investigation of its crystal structure. *American Mineralogist*, **2015**, 100, 2650-2654	2.9	4
15	Behaviour of niobium during early Earth's differentiation: insights from its local structure and oxidation state in silicate melts at high pressure. *Journal of Physics Condensed Matter*, **2018**, 30, 084004	1.8	4
14	Nb K-edge x-ray absorption investigation of the pressure induced amorphization in A-site deficient double perovskite La1/3NbO3. *Journal of Physics Condensed Matter*, **2016**, 28, 045401	1.8	4
13	High pressure atomic structure of Zr□u metallic glass via EXAFS spectroscopy and molecular dynamics simulations. *High Pressure Research*, **2020**, 40, 54-64	1.6	4
12	Electronic origins of the giant volume collapse in the pyrite mineral MnS2. *Journal of Solid State Chemistry*, **2019**, 269, 540-546	3.3	4
11	Specific Heat of Olive Oil to 356 MPa. *JAOCS, Journal of the American Oil ChemistsnSociety*, **2010**, 87, 1517-1520	1.8	3
10	Trigonal distortion of ferropericlase (Mg0.8Fe0.2)O at high pressures. *Doklady Physics*, **2005**, 50, 343-345	0.8	3
9	Pressure-induced transformations in Ce-Al metallic glasses: The role of stiffness of interatomic pairs. *Journal of Alloys and Compounds*, **2018**, 757, 484-488	5.7	3

List of Publications

8	Reply to Comments on Spin crossover in (Mg,Fe)O: A Mössbauer effect study with an alternative interpretation of x-ray emission spectroscopy data. *Physical Review B*, **2007**, 75,	3.3	2
7	Effect of Spin Transitions in Iron on Structure and Properties of Mantle Minerals. *NATO Science for Peace and Security Series B: Physics and Biophysics*, **2010**, 231-240	0.2	2
6	Atomistic simulation of the properties and phase transformations of FeO wustite under high pressures. *Doklady Physics*, **2003**, 48, 394-397	0.8	1
5	XANES study of spin crossover in Fe-bearing silicate perovskite. *Phase Transitions*, **2009**, 82, 336-343	1.3	
4	Spin transitions in ferropericlase under high pressure: Comparison of Mössbauer-spectroscopy and X-Ray emission-spectroscopy data. *Doklady Physics*, **2006**, 51, 229-233	0.8	
3	Measuring the speed of sound in an iron-nickel alloy at high pressure by inelastic X-ray scattering. *Doklady Physics*, **2006**, 51, 584-587	0.8	
2	Simulation of the properties of periclase by minimizing atomization energy. *Doklady Physics*, **2002**, 47, 717-720	0.8	
1	Synthesis and detailed characterization of bulk Sr2PdO3. *Physica B: Condensed Matter*, **2019**, 554, 148-152	2.8	